

ABSTRACT

To provide a screw fastening device that, when performing a screw tightening operation, can substantially reduce the running torque directly applied by external force to a screw driving device.

A characteristic constitution is adopted that is equips a screw driving device $\alpha 2$ with a device body 1 that stacks a plurality of piezoelectric elements 3 and 4 that generate predetermined ultrasonic oscillations with the application of a predetermined AC voltage and excites mechanical oscillations in a predetermined direction on an oscillating end surface 1a based on the ultrasonic oscillations; and a male distal end portion 21 that is correspondingly formed to be capable of fitting in a female recess 103 formed in a screw $\beta 1$ and integrally fixed to the device body 1 on the oscillating end surface 1a of the device body 1 to impart running torque, which is directly applied to the screw driving device $\alpha 2$ by external force, and transmit the mechanical oscillations in the predetermined direction that the device body 1 excites to the screw $\beta 1$, with which contact is made by fitting in the female recess 103.